

**REMARKS**

Claims 10, 14-15, 45-51 and 54-58 are pending in this application. Claims 10, 45, 51, 55 and 57 have been amended by the present Amendment. Amended claims 10, 45, 51, 55 and 57 do not introduce any new subject matter.

**OBJECTION TO THE SPECIFICATION**

Without conceding the merits of the Examiner's new matter objection, in order to advance prosecution of this case, Applicants have canceled without prejudice the material added to the specification in the March 21, 2007 Amendment.

**REJECTIONS UNDER 35 U.S.C. § 112**

Reconsideration is respectfully requested of the rejection of claims 10, 14, 15, 51 and 54-58 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

Without conceding the merits of the Examiner's rejection, in order to advance prosecution of this case, Applicants have canceled without prejudice from claims 10, 51, 55 and 57 reference to  $\text{Al}_x\text{Si}_x$ .

Accordingly, withdrawal of the section 112 rejection is respectfully requested.

**REJECTION UNDER 35 U.S.C. § 102**

Reconsideration is respectfully requested of the rejection of claims 45-47 and 49-50 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,978,058 ("Sung").

Claim 45 recites, *inter alia*, the inter-layer reaction layer includes inter-metallic compound comprising Al and the inter-metallic compound is formed by depositing a metal layer on the gate wire and the data wire and annealing the metal layer.

In contrast to the claimed embodiment, Sung fails to teach that the inter-layer reaction layer includes inter-metallic compound comprising Al and the inter-metallic compound is formed by depositing a metal layer on the gate wire and the data wire and annealing the metal layer. Indeed, the Examiner admits that Sung does not disclose the claimed inter-layer reaction layer including the inter-metallic compound. See July 3, 2007 Office Action at 8. Accordingly, Applicants submit that Sung fails to teach or suggest the claimed inter-layer reaction layer, and that claim 45 is not anticipated by Sung.

For at least the reason that claims 46-47 and 49-50 depend from claim 45, claims 46-47 and 49-50 are also submitted not to be anticipated by the cited reference.

Accordingly, for at least the above reasons, Applicants respectfully request that the Examiner withdraw the rejections of claims 45-47 and 49-50 under 35 U.S.C. § 102.

#### **REJECTIONS UNDER 35 U.S.C. § 103**

##### **Claim 48**

Reconsideration is respectfully requested of the rejection of claim 48 under 35 U.S.C. § 103(a) as being unpatentable over Sung in view of U.S. Patent No. 6,444,296 ("Sasaki").

As stated above, Sung does not disclose the inter-layer reaction layer including inter-metallic compound comprising Al and the inter-metallic compound is formed by depositing a metal layer on the gate wire and the data wire and annealing the metal layer.

Further, Sasaki fails to cure the deficiency in Sung.

Accordingly, Applicants submit that it would not be obvious to modify Sung in

view of Sasaki to develop the claimed inter-layer reaction layer.

Therefore, Applicants respectfully submit that claim 45 is patentable over the cited references. For at least the reason that claim 48 depends from claim 45, claim 48 is also submitted to be patentable over the cited references.

As such, Applicants request that the Examiner withdraw the rejection of claim 48 under 35 U.S.C. § 103.

Claims 10 and 51

Reconsideration is respectfully requested of the rejection of claims 10, 14, 15, 51 and 54-58 under 35 U.S.C. § 103(a) as being unpatentable over Sung in view of Sasaki, and further in view of U.S. Patent No. 5,181,132 ("Shindo").

Claim 10 recites, *inter alia*, an inter-layer reaction layer formed on the wire and including inter-metallic compound comprising Al, wherein the inter-metallic compound is formed by depositing a metal layer on the wire and annealing the metal layer. Similarly, claim 51 recites, *inter alia*, a second conductive layer sandwiched between the first wire and the first conductive layer and containing inter-metallic compound comprising Al, wherein the inter-metallic compound is formed by depositing a metal layer on the first wire and annealing the metal layer.

Shindo Does Not Disclose An Inter-Metallic Compound

In the rejections of claim 10 and 51, the Examiner admits Sung does not disclose the inter-layer reaction layer including inter-metallic compound comprising Al, and relies on Shindo to cure the deficiency in Sung. See July 3, 2007 Office Action at 8.

However, in contrast to the claimed embodiments, Shindo does not disclose an inter-layer reaction layer or a second conductive layer including inter-metallic compound

comprising Al. The cited portion of Shindo merely states that "the aluminum layer 71 may be replaced by a metal principally composed of aluminum, such as aluminum-silicon", but does not describe the aluminum-silicon as being an inter-metallic compound, which has specific meanings to one of ordinary skill in the art. See, e.g., G.E.R. Schulze: Metallphysik, Akademie-Verlag, Berlin 1967.

Accordingly, without the benefit of hindsight gleaned from Applicants' disclosure, one of ordinary skill would not modify Sung in view of Shindo to develop the claimed inter-layer reaction layer including an inter-metallic compound.

*None Of The Cited References Disclose Or Suggest The Inter-Metallic Compound Formed By Depositing A Metal Layer On The Wire And Annealing The Metal Layer*

Shindo and the remaining cited references also do not disclose, teach or suggest the inter-metallic compound formed by depositing a metal layer on the wire and annealing the metal layer, as recited in claims 10 and 51.

*There Is No Motivation To Modify Sung With The Teaching In Shindo*

The layer 71 in Shindo is not an inter-layer reaction layer. Accordingly, one of ordinary skill in the art would not look to Shindo to cure the deficiencies in Sung with respect to the claimed inter-layer reaction layer and second conductive layer. The layer 71 in Shindo is a light-shielding layer which has a thickness the same as the color layers to avoid liquid crystal orientation defects. See, e.g., Shindo, col. 13, line 64 – col. 14, line 14. Further, the layer 71 in Shindo does not appear to be electrically connected to the electrode 22, since it is covered by organic and inorganic protective films 69, 72, a polyimide layer 67, and an orienting film 56. As such, the layer 71 is not an inter-layer reaction layer, and one of ordinary skill in the art would not look to the layer 71 of

Shindo to modify the layers 9 and 13 of Sung.

Accordingly, for at least the above reasons, Applicants respectfully submit that claims 10 and 51 are patentable over Sung in view of Sasaki, and further in view of Shindo. For at least the reason that claims 14-15 and 55-56 depend from claim 10, and claims 54, 57 and 58 depend from claim 51, claims 14-15 and 54-58 are also submitted to be patentable over and/or not to be anticipated by the cited references.

As such, in view of the foregoing, Applicants respectfully request that the Examiner withdraw the rejection of claims 10, 14-15, 51 and 54-58 under 35 U.S.C. § 103.

An early and favorable reconsideration is earnestly solicited. If the Examiner has any further questions or comments, the Examiner may telephone Applicants' Attorney to reach a prompt disposition of this application.

Respectfully submitted,



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